



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,690	05/22/2001	Robert John Cottone, JR.	1133279-0004	8698

7470 7590 10/03/2002
WHITE & CASE LLP
PATENT DEPARTMENT
1155 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

WEBB, SARAH K

ART UNIT PAPER NUMBER

3731

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,690

Applicant(s)

COTTONE, ET AL.

Examiner

Sarah K Webb

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3731

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on March 1, 2002. These drawings are approved by the draftsman.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-7, 15-19, 25-27, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,843,175 to Frantzen.

Figures 16 and 17 most clearly illustrate the stent structure of Frantzen that anticipates the limitations of claims 1-7, 15-19, 25-27, and 33. Adjacent undulating members (120) are connected by four connection elements (150 or 180) in each 360 degree turn. The undulating members (120) in Figures 16 and 17 have a sinusoidal pattern, but Frantzen also includes a zigzag pattern as an alternate design choice for the undulating members, as shown in Figure 10.

Art Unit: 3731

3. Claims 1-5, 7-11, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6,348,065 to Brown et al.

Brown clearly anticipates all the limitations of claims 1-5, 7-11, and 14. Figure 3 shown a stent that has circumferential segments (16) connected by members (20), and fewer than all the undulations of adjacent segments are connected. Brown explains that adjacent elements (16) are connected with *3 or more*, (which includes four) members (20) in each 360 degree turn (column 2, line 27). The stent can be made from nickel titanium alloys, or Nitinol (column 3, line 60).

The embodiment illustrated in Figure 4 shows segments (16) that have a sinusoidal pattern. The stent further includes transition zones at each end, in which the struts (18) of the segments (16) are longer than those of adjacent segments. The transition segments are closed loops, comprise undulations of increased amplitude, and the transition segment is connected to another closed circumferential element that has a sinusoidal pattern.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 13, 15, 20-25, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of U.S. Patent No. 6,083,259 to Frantzen.

Art Unit: 3731

Brown includes all the limitations of claims 12,13,15, 20-25, and 28-32, except for the undulations formed in a zigzag pattern and a radiopaque segment in the transition zone. Frantzen teaches that undulating segments in a transition zone (330) may have a zigzag pattern (Figure 14) as a design alternative to a sinusoidal pattern (Figure 13). The transition segment (330) is connected by members (340) to a closed circumferential segment (360), which also has a zigzag pattern. The segment (360) also serves a radiopaque marker (column 10) for increasing the visibility of the stent under medical imaging devices. Frantzen teaches that it is well known in the art for stents to include many different types of radiopaque markers (column 2, paragraphs 2-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include zigzag undulations and radiopaque segments, as taught by Frantzen, in the stent of Brown, as these modifications are simply design alternatives.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent No. 5,569,295 to Lam – sinusoidal and zigzag lattice, connected by few segments, nitinol
- U.S. Patent No. 6,312,459 to Huang et al. – few connections between undulating segments, Nitinol
- U.S. Patent No. 6,309,414 to Rolando et al. – Figures 3, 10, 11. different types of helices in opposite directions.
- U.S. Patent Nos. 6,042,606 and 5,843,164 to Frantzen – self-expanding stent with few connections between undulating segments (sinusoidal and zigzag)

Art Unit: 3731


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah K Webb whose telephone number is (703) 305-7554. The examiner can normally be reached on 8am-4:30pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Milano can be reached on 703-308-2496. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3590 for regular communications and (703) 305-3590 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

Sarah K Webb
Examiner
Art Unit 3731

SW
September 27, 2002


Michael Milano
Supervisory Patent Examiner
Art Unit 3700